UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,039,555 B2
APPLICATION NO. : 10/715319
DATED : May 2, 2006
INVENTOR(S) : Fred D. Lang

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Claim 22 should read as follows:

"22. A method for quantifying the operation of a thermal system burning a fossil fuel, including a recovery boiler, producing effluents from combustion when being monitored on-line by one of the Input/Loss methods, said effluents from combustion influenced by an air leakage, the method comprising the steps of:

using one of the Input/Loss methods resulting in a selected Input/Loss method,

selecting a set of effluent concentrations associated with the thermal system based on available instrumentation resulting in a set of available plant effluent concentrations,

obtaining a ratio of effluent concentrations based on an effluent concentration obtained before the air leakage and on an effluent concentration obtained after the air leakage, resulting in an obtained ratio across the air leakage, and

establishing an air pre-heater leakage factor which describes the effects of the air leakage into the thermal system based on the obtained ratio across the air leakage."

Claim 27 should read as follows:

"27. The method of claim 22, including, after the step of establishing the air pre-heater leakage factor, the additional steps of:

obtaining a concentration of 0_2 in the combustion air local to the thermal system, and

using a ratio of air leakage to combustion air based on the air pre-heater leakage factor and the concentration of 0_2 in the combustion air, resulting in an air pre-heater dilution factor."

Claim 28 should read as follows:

"28. The method of claim 27, including, after the step of using the ratio of air leakage to combustion air, the additional steps of:

using a consistent set of effluent concentrations to be use by the selected Input/Loss method based on the air pre-heater leakage factor and the set of available plant effluent concentrations,

using a combustion equation based on the consistent set of effluent concentrations and the air pre-heater dilution factor, and

resolving the combustion equation through use of the selected Input/Loss method.

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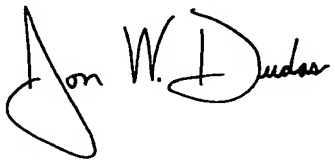
Claim 58 should read as follows:

"58. The method of claim 55, wherein the step of computing the fuel chemistry includes the step of

computing explicitly a moisture-ash-free fuel chemistry as a function of the explicit mathematical model of the combustion process, the set of measurable operating parameters, the obtained effluent H_20, and the air pre-heater leakage factor."

Signed and Sealed this

Eighth Day of August, 2006



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